

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal with street lighting and interconnect at the intersection of MD 157 (Merritt Blvd) and North Point Road in Baltimore County. The existing strain pole traffic signal shall be replaced with a mast arm traffic signal. Video detection shall be provided for presence detection on North Point Road and for the left turn phases on MD 157. Microprobes shall be used for advance detection. MD 157 is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA six-phase, fully-actuated mode, with the MD 157 approaches running concurrently. Exclusive left turn phases shall remain for both approaches of MD 157. The North Point Road approaches shall continue running concurrently.
- A full-traffic-actuated, eight-phase controller with two (2) four channel, rack mount loop detector amplifiers, housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.
- All controller cabinet wiring will be performed by the S.H.A. Signal Shop. Contact Mr. Ed Rodenhizer at (410) 787-7650 seventy-two hours in advance of intended work.
- Upon completion of this project, the Contractor shall notify Mr. Robert Snyder at (410) 787-7631 to arrange for the phone line installation. The Contractor is to provide Mr. Robert Snyder with the nearest street address, zip code and phone number.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A.

ITEM NO.	DESCRIPTION	QUANTITY
9081	Eight-phase, full-traffic actuated, solid state digital controller with (two) 4-channel, rack mount loop detector amplifiers, housed in a NEMA size "6" base-mounted cabinet.	1 EA
9089	Sheet aluminum signs to consist of: R4-7 "KEEP RIGHT" (symbolic) sign, (24" x 30") wood post mounted W3-3 "SIGNAL AHEAD" (symbolic) sign, (36" x 36") mast arm mounted. R1-2 "YIELD" sign, (36"x36"x36") ground mounted.	34 SF
9090	Sheet aluminum signs to consist of: (Blue or Green) D3-2 "Merritt Blvd" sign, (variable x 16") (dual faced) mast arm mounted. D3-2 "North Point Rd" sign, (variable x 16") (dual faced) mast arm mounted. GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-1 "NORTH" (30"x15") M1-5 "MD 157" (48"x36") M6-1 "left arrow" (30"x24") GUIDE SHIELD ASSEMBLY (30"x51") ground mounted. M3-1 "NORTH" (24"x12") M1-5 "MD 157" (30"x24") M6-1 "right arrow" (21"x15") GUIDE SHIELD ASSEMBLY (48"x75") pole mounted. M3-3 "SOUTH" (30"x15") M1-5 "MD 157" (48"x36") M6-1 "left arrow" (30"x24") GUIDE SHIELD ASSEMBLY (30"x51") pole mounted. M3-3 "SOUTH" (24"x12") M1-5 "MD 157" (30"x24") M6-1 "right arrow" (21"x15")	111 SF

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	3 EA
2001	Class 2 Excavation.	4 C.Y.
2002	Test Pit Excavation	6 C.Y.
5005	24" white heat applied permanent preformed thermoplastic pavement marking.	30 L.F.
5008	Remove existing pavement markings - any width, (stopline / centerline).	35 L.F.
6002	Standard type A combination curb and gutter 12" gutter pan 8" depth.	40 L.F.
8001	Pre-manufactured camera to controller (250' length) cable	3 EA

EQUIPMENT LIST (CONT.)

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
8003	Pre-manufactured camera to controller (500' length) cable	1 EA
8006	Cut, clean, galvanize and cap traffic signal structure.	1 EA
8011	Furnish and install 12" vehicular traffic signal head section	38 EA
8013	Furnish and install 15" bracket arm for traffic signal structure.	4 EA
8014	Furnish and install 250 watt HPS Luminaire with photocell.	4 EA
8020	Furnish and install control and distribution equipment (120/240 V, 1 phase 3 wire system).	1 EA
8021	Furnish and install 27' mast arm pole and 38' mast arm.	2 EA
8022	Furnish and install 27' mast arm pole and 50' mast arm.	1 EA
8023	Furnish and install 27' mast arm pole and 60' (cut to 40') mast arm.	1 EA
8024	Furnish and install 27' mast arm pole and 70' (cut to 64') mast arm.	1 EA
8029	Furnish and install microloop probe set with 500' lead-in	1 EA
8043	Furnish and install non-invasive probe set with 1000' lead-in cable.	2 EA
8044	Furnish and install non-invasive probe set with 500' lead-in cable.	3 EA
8047	Remove and dispose of existing foundation 12" below grade.	6 EA
8048	Remove and dispose of existing material and equipment per assignment.	1 EA
8049	Furnish and install video detector camera.	4 EA
8050	Furnish and install video detection interface equipment.	1 EA
8051	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched	2230 L.F.
8052	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - bored.	440 L.F.
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - trenched.	70 L.F.
8057	Furnish and install concrete for signal foundation.	19 C.Y.
8058	Furnish and install wood sign supports 4" x 4".	30 L.F.
8060	Furnish and install No. 6 AWG stranded bare copper ground wire.	1700 L.F.
8062	Furnish and install 1" electrical conduit galvanized sleeve.	25 L.F.
8064	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - bored.	250 L.F.
8068	Furnish and install 1" liquid tight flexible non-metallic conduit for detector sleeve.	25 L.F.
8072	Furnish and install electrical handhole.	25 EA
8074	Install ground mounted sign.	36 S.F.
8075	Install overhead sign.	109 S.F.
8080	Furnish and install ground rod 3/4" x 10'.	5 EA
8084	Furnish and install electrical cable - 5 conductor (No. 14 AWG).	610 L.F.
8085	Furnish and install electrical cable - 7 conductor (No. 14 AWG).	1320 L.F.
8086	Furnish and install tray cable - 2 conductor (No. 12 AWG).	770 L.F.
8091	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched	45 L.F.
8093	Install controller and cabinet base mount.	1 EA
Neg.	Pull back and reroute 6-pair interconnect cable	230 L.F.
Neg.	Furnish and install macadam patch.	4 C.Y.
Neg.	Furnish and install down guy.	1 EA
Neg.	Furnish and install electrical cable - 5 conductor (No. 10 AWG).	1905 L.F.

C. EQUIPMENT TO BE REMOVED AND RETURNED TO BALTIMORE COUNTY

The existing cabinet and controller is to become the property of Baltimore County Traffic Engineering. The contractor is to call Mr. Bill O'Neill at 410-887-8601. All other removed signal materials are to become the property of the contractor.

The contact persons for District #4 are as follows:

Mr. David J. Majkowski
District Engineer
Phone: (410) 321-2810

Mr. Randall Scott
Assistant District Engineer - Traffic
Phone: (410) 321-2781

Mr. Dave Ramsey
Assistant District Engineer - Maintenance
Phone: (410) 321-2761

Mr. Joe McMahon
Assistant District Engineer - Utility
Phone: (410) 321-2841

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

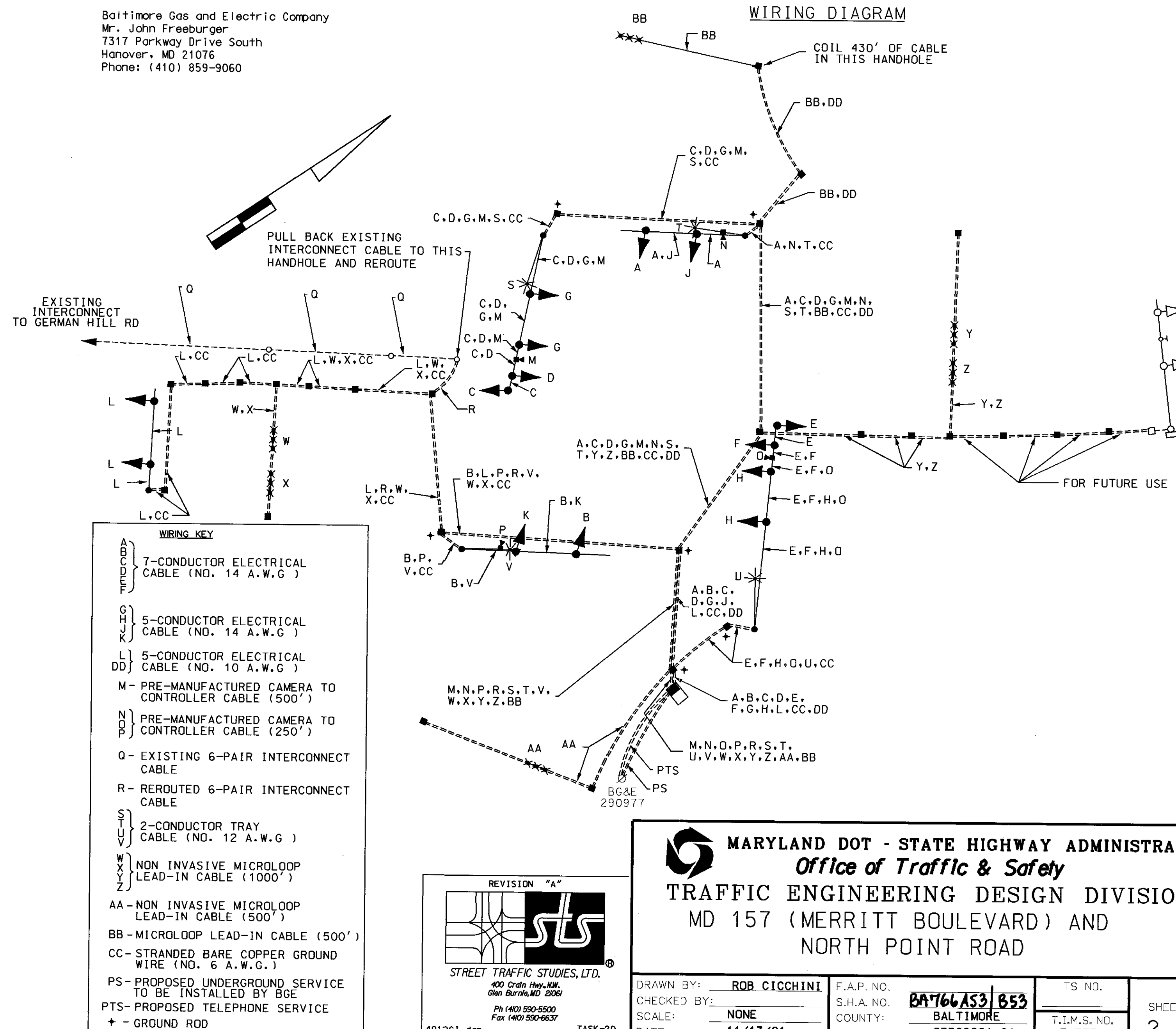
The power company representative is:

Baltimore Gas and Electric Company
Mr. John Freeburger
7317 Parkway Drive South
Hanover, MD 21076
Phone: (410) 859-9060

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 & 5	FL/Y	FL/Y	←G-	←G-	R	R	FL/Y	FL/Y	←G-	←G-	R	R	R	R	R	R
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																
PHASE 1 & 6	FL/Y	FL/Y	←G-	←G-	G	G	FL/Y	FL/Y	←R-	←R-	R	R	R	R	R	R
1 & 6 CHANGE	FL/Y	FL/Y	←Y-	←Y-	G	G	FL/Y	FL/Y	←R-	←R-	R	R	R	R	R	R
PHASE 2 & 5	FL/Y	FL/Y	←R-	←R-	R	R	FL/Y	FL/Y	←G-	←G-	G	G	R	R	R	R
2 & 5 CHANGE	FL/Y	FL/Y	←R-	←R-	R	R	FL/Y	FL/Y	←Y-	←Y-	G	G	R	R	R	R
PHASE 2 & 6	FL/Y	FL/Y	←R-	←R-	G	G	FL/Y	FL/Y	←R-	←R-	G	G	R	R	R	R
2 & 6 CHANGE	FL/Y	FL/Y	←R-	←R-	Y	Y	FL/Y	FL/Y	←R-	←R-	Y	Y	R	R	R	R
PHASE 4 & 8	FL/Y	FL/Y	←R-	←R-	R	R	FL/Y	FL/Y	←R-	←R-	R	R	G	G	G	G
4 & 8 CHANGE	FL/Y	FL/Y	←R-	←R-	R	R	FL/Y	FL/Y	←R-	←R-	R	R	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/←R	FL/←R	FL/Y	FL/Y	FL/Y	FL/Y	FL/←R	FL/←R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

WIRING DIAGRAM



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
MD 157 (MERRITT BOULEVARD) AND
NORTH POINT ROAD

DRAWN BY: **ROB CICCHINI**
CHECKED BY: **NONE**
SCALE: **11/13/01**
DATE:

F.A.P. NO. **BA766A53/653**
S.H.A. NO. **BALTIMORE**
COUNTY: **03802001.91**
LOG MILE:

T.S. NO. **E-777**
SHEET NO. **2 OF 2**